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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

EPPERSON, JON D

ART UNIT

PAPER NUMBER

1627

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Please find below and/or attached an Office communication concerning this application or proceeding.

File Copy
Office Action Summary

Application No.

09/804,580

Examiner

Jon D Epperson

Applicant(s)

MAHER ET AL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-50 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Please Note: In an effort to enhance communication with our customers and reduce processing time, Group 1627 is running a Fax Response Pilot for Written Restriction Requirements. A dedicated Fax machine is in place to receive your responses. The fax number is (703) 308-4315. A fax cover sheet is attached to this Office Action for your convenience. We encourage your participation in this Pilot program. If you have any questions or suggestions please contact Jyothsna Venkat, Supervisory Patent Examiner, at (703) 308-2439. Thank you in advance for allowing us to enhance our customer service. Please limit the use of this dedicated Fax number to responses to Written Restrictions.

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-39 and 48-50 drawn to a system for "high throughput screening." The invention is classified, for example, in class 435, DIG 45.
 - II. Claims 40-47 drawn to a method for "screening a plurality of drug candidate compounds against a target ion channel." The invention is classified variously, for example, in class 435, subclass 173.4 or class 435, subclass 29 or class 436, subclass 172.
2. The inventions are distinct, each from the other because of the following reasons:
3. Groups I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP

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§ 806.05(h)). In the instant case, the process for using the product as claimed could be practiced with another materially different product, for example, a plurality of drug candidate compounds could be screened against a target ion channel without the use of an optical detector. For instance, binding assays with radiolabeled ligands could be used.

4. These inventions have acquired a separate status in the art as shown by their different classification and/or divergent subject matter. The different methods and products would require completely different searches in both the patent and non-patent databases, and there is no expectation that the searches would be coextensive. Therefore, this does create an undue search burden, and restriction for examination purposes as indicated is proper.

5. This application contains claims directed to the following patentably distinct species of the claimed inventions as set forth below.

6. If applicant elects the invention of Group I applicant is required to elect from the following patentably distinct species. Claim 18 is generic.

Subgroup 1: Species material for high transmittance portion (see claim 3)

- A. Glass
- B. Quartz
- C. Cycloolefin
- D. Aclar
- E. Polypropylene
- F. Polyethylene
- G. Polystyrene

Subgroup 2: Species of electrode material (see claims 10 and 35)

- A. Gold

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- B. Platinum
- C. Palladium
- D. Chromium
- E. Molybdenum
- F. Iridium
- G. Tungsten
- H. Tantalum (Ta)
- I. Titanium
- J. Vanadium
- K. Niobium (Nb)
- L. Stainless steel
- M. Graphite

Subgroup 3: Species of material for multiwell plate (see claim 11)

- A. Optically opaque material
- B. Pigment

Note: In addition to the general class of materials listed above in subgroup 3, a *specific* material must also be elected for the purposes of a search. Furthermore, all atoms and bonds of the material must be shown.

Subgroup 4: Species of plurality of wells (see claims 16 and 17)

- A. Further comprising an insulator
- B. Further comprising at least two satellite electrical conductors

Subgroup 5: Species of liquid handling station (see claim 18)

Note: A *specific* liquid handling station must be elected for the purposes of a search.

Subgroup 6: Species of electrical conductors (see claims 28-30)

- A. Further comprise a first insulator
- B. Further comprise a second insulator

Note: If applicant elects the general class A above in subgroup 6, applicant must also elect a species from subgroup 7 below. Likewise, if applicant elects the general class B above in subgroup 6, applicant must also elect a species from subgroup 8 below.

Subgroup 7: Species of low fluorescence material for insulators (see claims 31-34)

- A. Plastic
- B. Ceramic
- C. Glass

Note: In addition to the general class of low fluorescence materials listed above in subgroup 7, a *specific* low fluorescence material must also be elected for the purposes of

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a search e.g., nylon, polystyrene, etc. A low fluorescence material must be specified for *both* the first and second insulators.

Subgroup 8: Species of surface treatment (see claim 36-37)

- A. Platinum black
- B. Gold black
- C. Iridium/iridium oxide
- D. Titanium/titanium nitride
- E. Polypyrrole films

7. If applicant elects the invention of Group II applicant is required to elect from the following patentably distinct species. Claim 40 is generic.

Subgroup 9: Species of drug candidate compounds (see claim 40)

Note: A *specific* drug candidate compound must be elected for the purposes of a search. Furthermore, all atoms and bonds of the drug candidate compound must be shown.

Subgroup 10: Species of target ion channel (see claims 40 and 47)

- A. Potassium channel
- B. Calcium channel
- C. Chloride channel
- D. Sodium channel

Note: In addition to the general class of target ion channels listed above in subgroup 10, a *specific* target ion channel must also be elected for the purposes of a search. Furthermore, all atoms and bonds of the target ion channel must be shown.

Subgroup 11: Species of host cells (see claims 40 and 41)

Note: A *specific* host cell must be elected for the purposes of a search. Furthermore, all pertinent characteristics of host cell must be disclosed e.g., normal resting transmembrane potential.

Subgroup 12: Species of ion channel properties (see claims 43-45)

- A. Electric field causes an ion channel to cycle between different voltage dependent states
- B. Electric field causes an ion channel of interest to open
- C. Electric field causes an ion channel of interest to be released from inactivation

Subgroup 13: Species of voltage sensor (see claim 46)

- A. FRET based voltage sensor
- B. Electrochromic transmembrane potential dye

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- C. Transmembrane potential redistribution dye
- D. Ion sensitive fluorescent molecule
- E. Ion sensitive luminescent molecule
- F. Radioactive ion

Note: In addition to the general class of voltage sensors listed above in subgroup 13, a *specific* voltage sensor must also be elected for the purposes of a search. Furthermore, all atoms and bonds of the voltage sensor must be shown.

Subgroup 14: Species of electrical field stimulation (see claim 48)

- A. Square wave-form
- B. Sinusoidal wave-form
- C. Saw tooth wave-form

8. The species are distinct, each from the other, because their structures and modes of action are different. They would also differ in their reactivity and the starting materials from which they are made. For different species of method, the method steps for each species would differ. Moreover, the above species can be separately classified. Therefore, the species have different issues regarding patentability and represent patentably distinct subject matter.

9. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

10. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

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11. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).
12. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.
13. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143). Because the above restriction/election requirement is complex, a telephone call to applicants to request an oral election was not made. See MPEP § 812.01.
14. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

15. Applicant is also reminded that a 1 - month (not less than 30 days) shortened statutory period will be set for response when a written requirement is made without an action on the merits. This period may be extended under the provisions of 37 CFR 1.136(a). Such action will not be an "action on the merits" for purposes of the second action final program, see MPEP 809.02(a).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon D. Epperson, Ph.D. whose telephone number is (703) 308-2423. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 4:30 p.m..

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jyothsna Venkat, can be reached on (703) 308-2439. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Jon D. Epperson, Ph.D.
6/26/02


DR. JYOTHSNA VENKAT PH.D.
SUPERVISORY PATENT EXAMINER
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